

CLAIMS

What Is Claimed Is:

1. A fluid flow control valve having an input and an output for maintaining a constant fluid flow at the output regardless of fluid pressure at the input, the control valve comprising:

an inlet socket permitting fluid flow through an orifice along a longitudinal axis through the inlet socket;

an outlet socket attached to the inlet socket permitting fluid flow from the inlet socket through an orifice along a longitudinal axis through the outlet socket;

a pressure check piston having a first and second end and a fluid flow orifice between the first and second end, the piston slidably engaging the inlet socket at the first end and the outlet socket at the second end; and

a spring biasing the pressure check piston towards the inlet socket.

2. The fluid flow control valve of claim 1 further comprising a pressure seal located around the orifice in the outlet socket.

3. The fluid flow control valve of claim 2 wherein the second end of the pressure check piston is adapted to close the orifice in the outlet socket when the second end of the pressure check piston is pressed against the pressure seal.

4. The fluid flow control valve of claim 1 wherein fluid flow through the orifice in the inlet socket, the orifice in the pressure check piston, and the orifice in the outlet socket, when the pressure check piston is biased toward the inlet socket by the spring.

5. The fluid flow control valve of claim 1 wherein the second end of the pressure check piston is adapted to be impacted by fluid flow through the control valve.

6. The fluid flow control valve of claim 5 wherein the spring biasing the pressure check piston towards the inlet socket is adapted to be compressed by fluid flow impacting the pressure check piston.

7. The fluid flow control valve of claim 6 wherein the fluid flows through the orifice in the pressure check piston when the fluid flow impacting the pressure check piston compresses the spring.

8. The fluid flow control valve of claim 7 further comprising a pressure seal located around the orifice in the outlet socket.

9. The fluid flow control valve of claim 8 wherein the second end of the pressure check piston is adapted to close the orifice in the outlet socket when the second end of the pressure check piston is pressed against the pressure seal by fluid flow impacting the pressure check piston.

10. A fluid flow control valve having a housing with a fluid input and a fluid output, for maintaining a constant fluid flow at the output in spite of an increase or decrease in fluid pressure at the input, the control valve comprising:

a first wall, transverse to fluid flow through the housing at the inlet end of the housing, the wall having a plurality of orifices;

a second wall, transverse to fluid flow through the housing at the outlet end of the housing, the wall having a plurality of orifices;

a pressure check piston having a first and second end and a fluid flow orifice between the first and second end, the piston slidably engaging an orifice in the first wall at the first end and slidably engaging an orifice in the second wall at the second end; and

a spring biasing the pressure check piston towards the fluid input of the valve housing.

11. The fluid flow control valve of claim 10 further comprising a pressure seal around the orifice in the second wall not engaged by the pressure check piston.

12. The fluid flow control valve of claim 11 wherein the second end of the pressure check piston is adapted to close the orifice when the second end of the pressure check piston is pressed against the pressure seal.

13. A fluid flow control valve having a housing with a fluid input and a fluid output, for maintaining a constant fluid flow at the output in spite of an increase or decrease in fluid pressure at the input, the control valve comprising:

a first orifice of a predetermined size between the input and output of the valve housing for fluid flow between the input and output;

a second orifice of a predetermined size between the input and output of the valve housing for fluid flow between the input and output; and

a stopper for closing the second orifice to fluid flow in response to the fluid pressure at the input of the housing.

14. The fluid flow control valve of claim 13 wherein the first orifice is in the stopper.

15. The fluid flow control valve of claim 14 wherein the stopper is impacted by fluid flow through the valve housing.